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Final Report

Mine Seal Project, Phase 17
Fergus County, Montana
Maiden Canyon Sites
IFB 4169-G

January, 1987

STATE DOCUMENTS COLLECTION

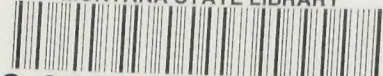
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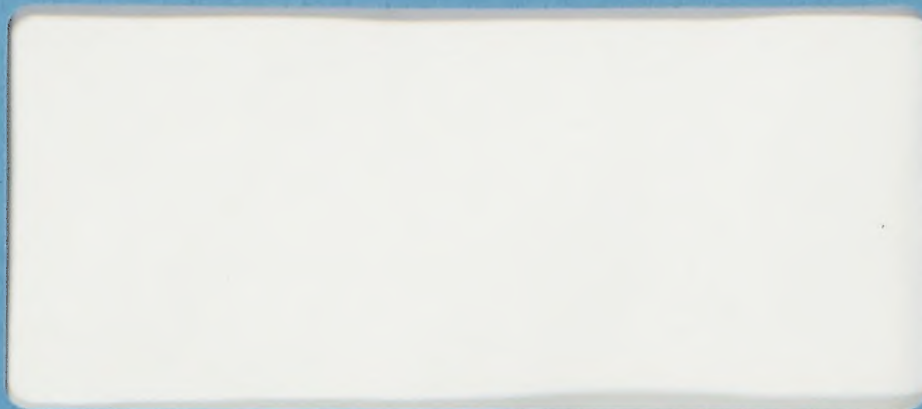
L. C. HANSON COMPANY

CONSULTING ENGINEERS & SURVEYORS
HELENA — GREAT FALLS — GLENDIVE

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Final Report

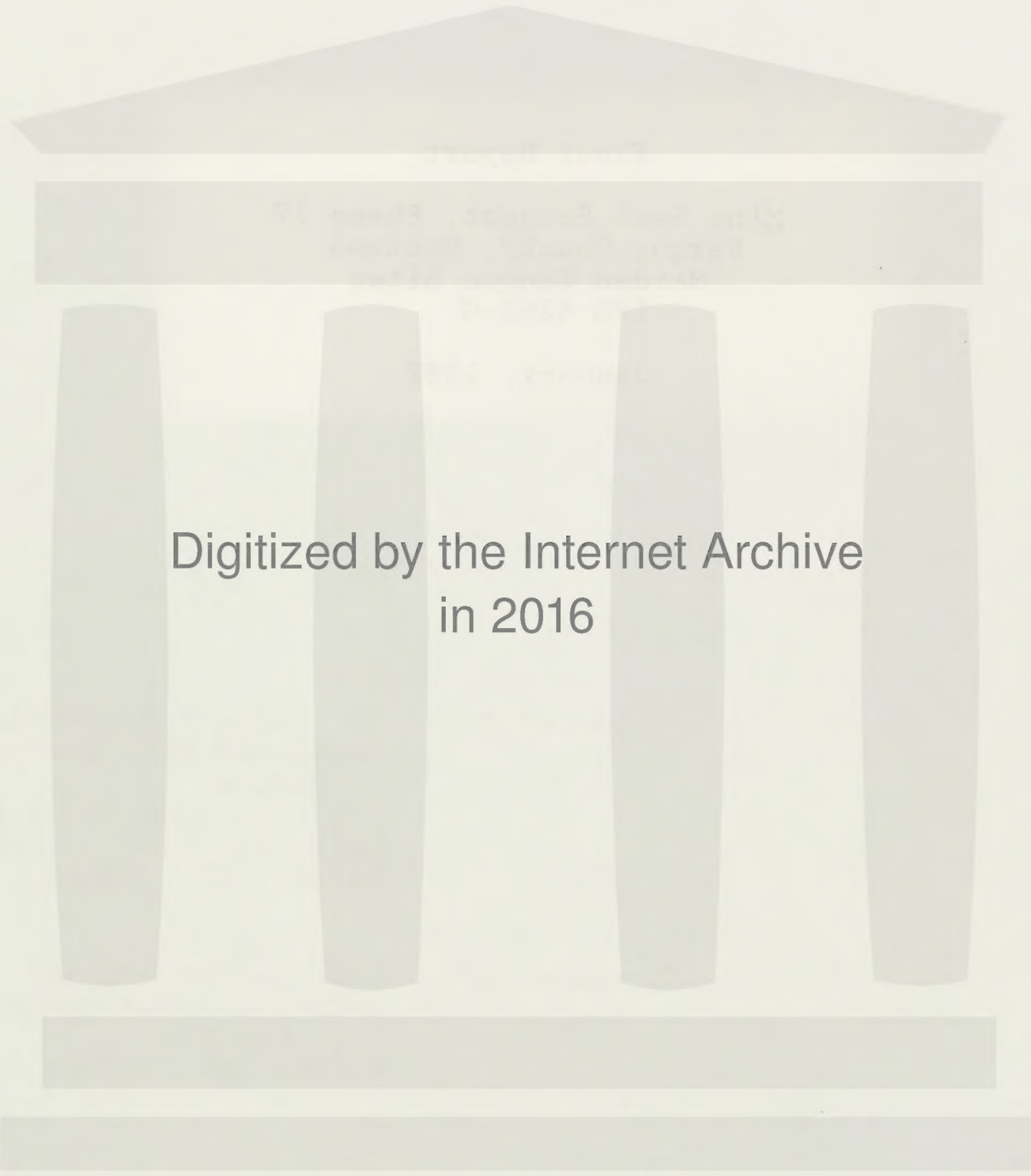
Mine Seal Project, Phase 17
Fergus County, Montana
Maiden Canyon Sites
IFB 4169-G

January, 1987

Prepared for: Mr. Richard Juntunen, Chief
Abandoned Mine Reclamation
Bureau
Department of State Lands
1625 11th Ave.
Helena, MT 59620

Prepared by: L.C. Hanson Company
Consulting Engineers
P.O. Box 299
Helena, MT 59624

Project Inspector: Bruce Brannon



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I. Introduction

A. Project Objectives

The Phase 17 Mine Seal Project was undertaken to eliminate the public safety hazards resulting from unreclaimed mine openings at several abandoned hardrock mines in Fergus County, Montana. Closure of dangerous shafts and adits through backfilling, bulkhead installation, and/or fencing was accomplished to eliminate accidental entry.

B. Project Location

The project covered nine sites in Maiden Canyon, located in the Judith Mountains and Warm Springs Mining District, eleven miles northeast of Lewistown, Montana. Legal descriptions are listed below and site locations are shown on the vicinity map contained herein.

Warm Springs Mining District

Crystal Peak Area

Florence - Get Even Site

T17N R20E Sec. 32 SE

Pilgrim Site

T17N R20E Sec. 32 SW

Gold Hill Area

Cumberland Site

T16N R20E Sec. 5 NE

Matthews Site

T16N R20E Sec. 5 NW

Grassy Mountain Area

Silver Bullion Site

T17N R20E Sec. 30 NE

Tail Holt Site

T17N R20E Sec. 30 NE

Western Mines Area

Mill Complex Site

T16N R19E Sec. 11 NW

Northwest Complex Site

T16N R19E Sec. 2 SW

Upper Complex Site

T16N R19E Sec. 11 NE

C. History

Hardrock mining has taken place in Montana since 1862 and was essentially unregulated from a reclamation standpoint for over one hundred years. This resulted in thousands of hazardous shafts and adits in mining districts across the state.

A brief history of the Warm Springs Mining District follows:

Some placer deposits were discovered in 1880, and lode mines soon after. Mining began in 1881, and proved quite profitable for many years. Litigation and inefficient management were responsible for fluctuations in production after 1900.

D. Site Description And Problems

The sites included in this project are located in or near residential areas, historic sites, close to public roads or in recreation areas. All mine openings threatened public safety. The shafts involved were of depth great enough to prevent unaided escape upon entry. Adits were reclaimed or bulkheaded to protect the curious from unsuspected dangers.

II. Description of Project Reclamation

A. Project Planning

Backfill was recommended for all mine openings to permanently eliminate the hazards. Many landowners refused to allow this, insisiting instead on accessing bulkheads or fencing. These techniques do accomplish the goals of preventing accidental entry but are semi-permanent in nature and may require maintenance in the future.

B. Chronological History

Pre-Bid Conference	March 13, 1985
Bid Opening	March 28, 1985
Contract Award	April 26, 1985
Contract Awarded To:	

Allen Electric, Inc.
P.O. Box 5566
Helena, MT 59604
(406)442-3780

Pre-Construction Meeting	May 14, 1985
Notice to Proceed	May 23, 1985
Began Work	May 25, 1985
Project Completed	July 7, 1985

C. Equipment

CAT D-7 Dozer
Air Compressor with Jack Hammer
Dynamite for Blasting

D. Construction Operations

The Contractor performed the following:

1. Backfilled 2 adits
2. Backfilled 7 shafts
3. Installed 3 adit doors (6'x 7', 4'x 6', 6'x 6')
4. Installed 1 steel grate (24'x 24')
5. Installed combination barbed and woven wire fence at 2 sites
6. Revegetated all areas disturbed by construction activities

III. Cost Summary

A. Final Payment Request

A copy of the Final Payment Request is contained in Appendix A. That document contains the final quantities and costs for work at each site.

B. Change Order

No Change Orders were executed during the course of the project.

C. Cost Per Site / Unit

The following summary describes the work performed (with estimated or measured quantities) and the total cost for each site:

1. Silver Bullion Site (Grassy Mountain) \$ 756.00
 - a. Install wire fence (7.2 rods)
 - b. Install hazard signs (4 each)
 - c. Seed, fertilize & mulch
2. Tail Holt Site (Grassy Mountain) \$ 1,962.00
 - a. Backfill 1 shaft (135 c.y.)
 - b. Install adit door (6'x 7')
 - c. Seed, fertilize & mulch

3.	Pilgrim Site (Crystal Peak)	\$ 641.00
	a. Backfill 1 shaft (181 c.y.)	
	b. Seed, fertilize & mulch	
4.	Florence - Get Even Site (Crystal Peak)	\$ 574.00
	a. Backfill 2 adits & 2 shafts (105 c.y.)	
	b. Install caution signs (3 each)	
	c. Seed, fertilize & mulch	
5.	Cumberland Site (Gold Hill)	\$ 3,944.00
	a. Backfill 1 shaft (300 c.y.)	
	b. Install adit door (4'x 6')	
	c. Install wire fence (28.4 rods)	
	d. Install hazard signs (5 each)	
	e. Seed, fertilize & mulch	
6.	Matthews Site (Gold Hill)	\$ 4,135.00
	a. Install steel grate (24'x 24')	
	b. Seed, fertilize & mulch	
7.	Upper Complex (Western Mines)	\$ 158.00
	a. Backfill 1 shaft (30 c.y.)	
	b. Install caution signs (2 each)	
	c. Seed, fertilize & mulch	
8.	Mill Complex Site (Western Mines)	\$ 1,543.00
	a. Install adit door (6'x 6')	
	b. Install caution signs (2 each)	
	c. Seed, fertilize & mulch	
9.	NW Complex Site (Western Mines)	\$ 117.00
	a. Backfill 1 shaft (30 c.y.)	
	b. Seed, fertilize & mulch	

	Total Project Cost	\$ 13,830.00

IV. Summary

A. Completed Reclamation

The required work was completed within the Contract time allowed.

The project resulted in the complete plugging of some adits, and shafts and limits access to other shafts and adits by installed doors, grates and fences. Hazard signs were installed where appropriate. Revegetation of disturbed areas was also accomplished.

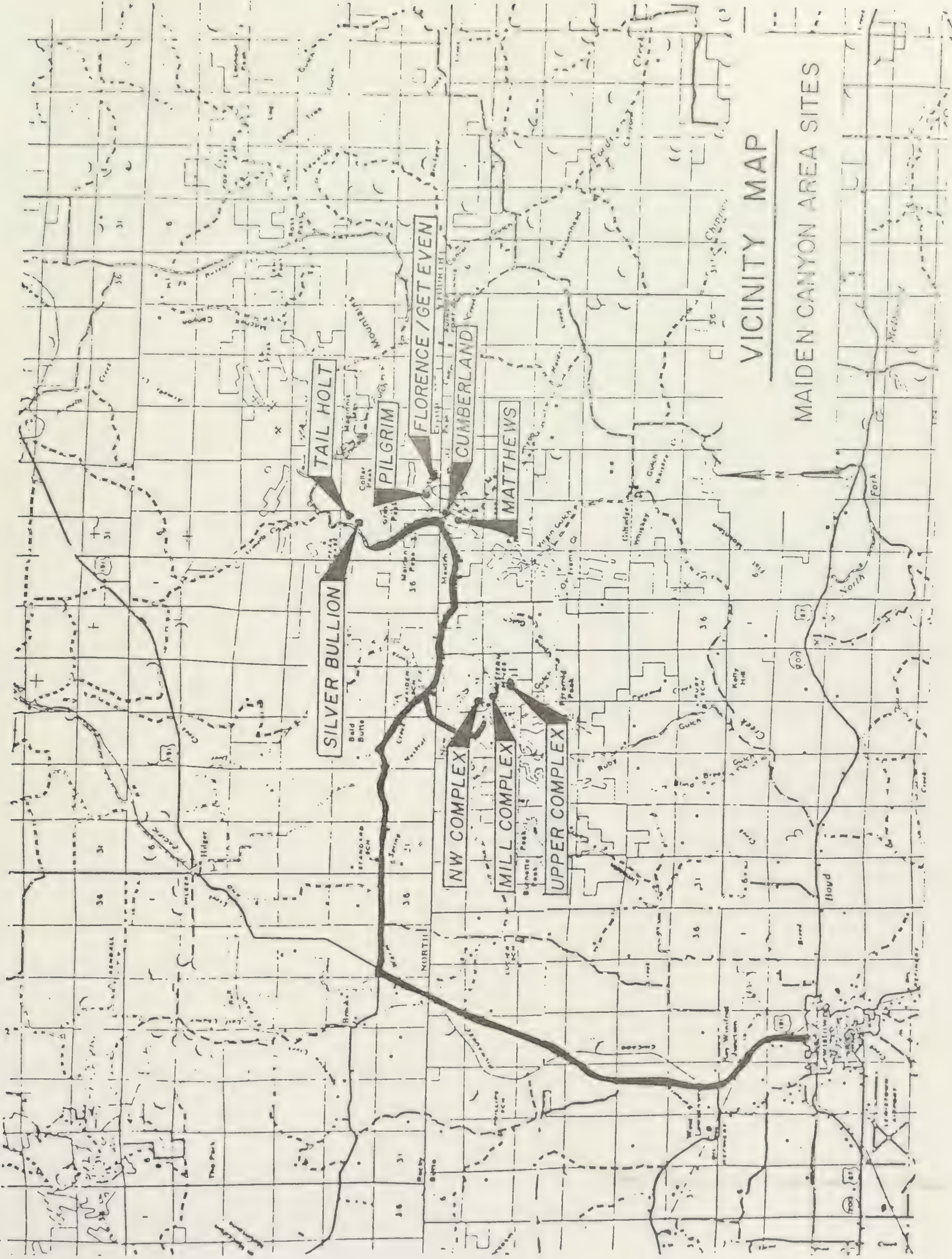
B. Comments

The Contractor completed the work as specified.

Monitoring of all sites should be undertaken periodically to insure all backfilling and fencing work and revegetation efforts remain intact.

V. Slides

The slide log and slides are contained in Appendix B.



VICINITY MAP

MAIDEN CANYON AREA SITES

APPENDIX A

FROM May 23, 1985 TO July 7, 1985

PROJECT NAME MINE SEAL, PHASE 17 - MAIDEN CANYON SITES
 LOCATION FERGUS COUNTY, MONTANA PROJ. NO. IFB 4703-G
 NAME OF CONTRACTOR ALLEN ELECTRIC, INC. ADDRESS 2101 N. MAIN HELENA, MT
 59604

CHANGE ORDERS			CONTRACT STATUS			
No.	Description	Amount	Total Amount	Completed Amount	Uncompleted Amount	Per Cent Complete
			14,552.00	13,830.10	-0-	100
Total Change Orders			-0-			
CONTRACT TO DATE INCLUDING CHANGE ORDERS			14,552.00	13,830.10	-0-	100

TOTAL RETAINAGE \$	COMPLETED TO DATE \$	13,830.10
SECURITIES ON DEPOSIT \$	PLUS MATERIALS ON SITE \$	-0-
ADJUSTED RETAINAGE \$	TOTAL COMPLETED TO DATE \$	13,830.10
*For use only when securities are on deposit in lieu of 10% retainage.	* 0% OR ADJUSTED RETAINAGE \$	-0-
	TOTAL AMOUNT EARNED TO DATE \$	13,830.10
	LESS PREVIOUS PAYMENTS \$	-0-
	AMOUNT DUE THIS PAYMENT \$	13,830.10
	LESS 1% TAX \$	138.30
	TOTAL DUE CONTRACT \$	13,691.80

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

Approved By:

Allen Electric, Inc.
(Contractor)

Montana Dept. of State Lands
Owner

By [Signature]

[Signature]

Date 7/24/85

7/26/85

RECOMMENDED BY:

L. C. Hanson Company
(Engineer)

By [Signature]

Date 7/24/85

MINE SEAL PROJECT, PHASE 17
MAIDEN CANYON SITES

ITEMIZATION OF QUANTITIES AND COSTS

ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	WORK COMPLETED TO DATE	COST COMPLETED WORK	PERCENT COMPLETE
1.	BACKFILL MINE OPENINGS	LUMP SUM	2,462.00	100%	2,462.00	100
2.	FENCE - TYPE CW OR CM	40 RODS	30.00	35.6 RODS	1,068.00	100
3.	PANEL - SINGLE TYPE CW	5 EACH	100.00	2 EACH	200.00	100
4.	PANEL - DOUBLE TYPE CW	6 EACH	125.00	7 EACH	875.00	100
5.	DEADMAN	2 EACH	25.00	NONE REQUIRED	-0-	-0-
5.	INSTALL STATE-FURNISHED SIGNS	9 EACH	10.00	9 EACH	90.00	100
7.	ERECT STATE-FURNISHED CAUTION SIGNS	10 EACH	15.00	10 EACH	150.00	100
.	STEEL GRATE SYSTEM	1 EACH	4,500.00		* 4,135.10	
.	ADIT DOOR - TYPE "A" GRID	3 EACH	1,500.00	3 EACH	4,500.00	100
..	SEEDING, FERTILIZING, MULCHING	LUMP SUM	350.00	100%	350.00	100
	* See attached explanation and invoices					
	TOTAL FOR CONTRACT				<u>\$13,830.10</u>	

Payment Request One (Final)
MINE SEAL PROJECT, PHASE 17 - MAIDEN CANYON SITES
IFB 4703-G

MINE SEAL PROJECT, PHASE 17

STEEL GRATE SYSTEM

The Steel Grate System planned for the MATTHEWS site had been fabricated and was to be transported for installation when it was discovered that the mine ownership had changed and was being actively mined. Installation of the grate system was, therefore, deleted.

The bid price for the grate system installed was \$4,500.00.

Consequently, the Contractor and the State agreed to adjusted compensation as follows:

Materials	\$ 2,235.20
Labor (Fabrication)	<u>1,400.00</u>
Sub-Total Labor & Materials	\$ 3,635.20
+ 11% anticipated profit	<u>399.87</u>
Sub-Total	\$ 4,035.07
+ Load, haul to storage and unload	<u>100.00</u>
 TOTAL ADJUSTED COMPENSATION	 <u>\$ 4,135.07</u>

Invoices for materials and fabrication are attached.

STATEMENT

Custom Welding
CANYON LIBRARY, Rd.

7/17

85

ALLEN ELECTRIC

2101 N MAIN

HELENA, MT.

Upon Completion

2-12'x24' GRATES FABRICATED \$ 1,400⁰⁰
AND PAINTED IN ACCORDANCE
WITH PROPOSAL SUBMITTED TO
ALLEN ELECTRIC 2/25/85

Paid in full ~~4/25/85~~

Willie Davis

TO Jeff Hagner

RE: Maiden Canyon

Buying and selling
the basics.

Pacific TM
PACIFIC
HIDE & FUR
DEPOT

Steel/Hides/Furs/Recycling

DATE
11 ' 98

P O BOX 4226
HELENA, MT 59604
PHONE 406 252-7353

1.	4.	7.
2.	5.	8.
3.	6.	9.

- 1 CASH
2. CASH RETURN
- 3 CHARGE
- 4 CREDIT MEMO
5. VOID

INVOICE 564366

SOLD TO

11

5623

ORDERED BY

- LEE-SCOTT

CUSTOMER P.O. #

• • U. - 004 209

SOLD BY

EAST HELENA, MT 59605

S
H
P
T
O

SHIP VIA _____ C.O.D./COLLECT ☐ P.P. ☐

QUANTITY		STOCK NUMBER	DESCRIPTION	PRICING QUANTITY	UNIT PRICE	AMOUNT	
ORDERED	SHIPPED						
	18		4# Galvanized A'X8'		60.80	1094	40
	7		10" X 4# Channel X 40			1140	80
						<u>2235</u>	20
			(PROCESSING/CUTTING)				
		TOTAL WT	(FREIGHT/DELIVERY)				

TERMS: Net due 28 days from invoice date. Charges not paid within the 28-day period shall be deemed to have been made pursuant to the terms of the Pacific "Charge Account Agreement" or the laws of the appropriate state as applicable, providing for deferred payments and the imposition of FINANCE CHARGES. Pacific retains a Purchase Money Security Interest in all property purchased hereunder and pursuant to the terms of the Pacific Charge Account Agreement.

SUB TOTAL

SALES TAX

TOTAL DUE

IMPORTANT LEGAL NOTICE ON REVERSE
SIDE

HANDISE RECEIVED BY

INVOICE MUST ACCOMPANY AND
IS ON RETURNED MERCHANDISE

APPENDIX B

Phase 17 Mine Seal Project
Maiden Canyon, Fergus County
Slide Log

Warm Springs Mining District,
Crystal Peak Area

1. Sept., 1983	Before:	Florence adit #1 - debris on dump
2. Sept., 1983	Before:	Florence adit #1 - backfill site
3. Sept., 1983	Before:	Florence adit #1 - backfill site
4. Sept., 1983	Before:	Florence adit #1 - backfill site
5. Sept., 1983	Before:	Florence adit #2 - backfill site
6. Sept., 1983	Before:	Florence adit #3 - backfill site
7. Sept., 1983	Before:	Florence adit #3 - backfill site
8. Sept., 1983	Before:	Pilgrim shaft - view of dump
9. Sept., 1983	Before:	Pilgrim shaft - backfill site
10. Sept., 1983	Before:	Pilgrim shaft - backfill site
11. Sept., 1983	Before:	Pilgrim shaft - backfill site

Grassy Mountain Area

12. Sept., 1983	Before:	Silver Bullion - fence site
13. Sept., 1983	Before:	Silver Bullion - view of dump
14. Sept., 1983	Before:	Silver Bullion - fence site
15. Sept., 1983	Before:	Silver Bullion - old mining equipment
16. Sept., 1983	Before:	Silver Bullion - fence site
17. Sept., 1983	Before:	Silver Bullion - fence site
18. Sept., 1983	Before:	Silver Bullion - fence site
19. Sept., 1983	Before:	Tail Holt adit - adit door site
20. Sept., 1983	Before:	Tail Holt shaft - backfill site
21. Sept., 1983	Before:	Tail Holt shaft - backfill site

Gold Hill Area

22. June, 1983	Before:	Cumberland millsite
23. June, 1983	Before:	Cumberland shaft #1 - backfill site
24. June, 1983	Before:	Cumberland shaft #1 - backfill site
25. June, 1983	Before:	Cumberland shaft #1 - backfill site
26. June, 1983	Before:	Cumberland shaft #1 - backfill site
27. June, 1983	Before:	Cumberland pit #2 - fence site
28. June, 1983	Before:	Cumberland pit #2 - fence site
29. June, 1983	Before:	Cumberland pit #2 - fence site
30. June, 1983	Before:	Cumberland pit #2 - fence site
31. June, 1983	Before:	Cumberland adit #3 - adit door site
32. June, 1983	Before:	Mathews shaft - grate site
33. June, 1983	Before:	Mathews shaft - grate site

Western Mines Area

34. June, 1983		Mill Complex - view
35. June, 1983		Mill Complex - view
36. June, 1983	Before:	Mill Complex adit - adit door site
37. June, 1983	Before:	Northwest Complex shaft - backfill site
38. June, 1983	Before:	Upper Complex shaft - backfill site
39. June, 1983	Before:	Upper Complex shaft - backfill site

